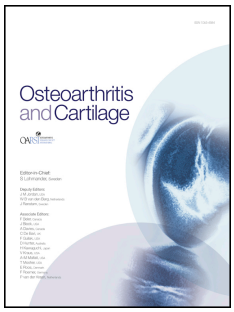
Accepted Manuscript



Response to: Losina E. Why past research successes do not translate to clinical reality: gaps in evidence on exercise program efficiency. Osteoarthritis and Cartilage 2019;27:1-2

Mrs Laura R. Swaithes, Krysia S. Dziedzic, Professor, Dr Elizabeth Cottrell, Dr Jonathan G. Quicke

PII: S1063-4584(19)30905-7

DOI: https://doi.org/10.1016/j.joca.2019.02.801

Reference: YJOCA 4434

To appear in: *Osteoarthritis and Cartilage*

Received Date: 31 January 2019

Accepted Date: 7 February 2019

Please cite this article as: Swaithes LR, Dziedzic KS, Cottrell E, Quicke JG, Response to: Losina E. Why past research successes do not translate to clinical reality: gaps in evidence on exercise program efficiency. Osteoarthritis and Cartilage 2019;27:1-2, *Osteoarthritis and Cartilage*, https://doi.org/10.1016/j.joca.2019.02.801.

Title:

Response to: Losina E. Why past research successes do not translate to clinical reality: gaps in evidence on exercise program efficiency. Osteoarthritis and Cartilage 2019;27:1-2.

Authors:

Mrs Laura R Swaithes. Keele Impact Accelerator Unit, Versus Arthritis Primary Care Centre, Keele University, Staffordshire, United Kingdom, ST5 5BG

Professor Krysia S Dziedzic. Keele Impact Accelerator Unit, Versus Arthritis Primary Care Centre, Keele University, Staffordshire, United Kingdom, ST5 5BG

Dr Elizabeth Cottrell. Impact Accelerator Unit, Versus Arthritis Primary Care Centre, Keele University, Staffordshire, United Kingdom, ST5 5BG

Dr Jonathan G Quicke. Impact Accelerator Unit, Versus Arthritis Primary Care Centre, Keele University, Staffordshire, United Kingdom, ST5 5BG

Corresponding author:

Laura Swaithes. Keele Impact Accelerator Unit, Versus Arthritis Primary Care Centre, Keele University, Staffordshire, United Kingdom, ST5 5BG. Email: l.swaithes@keele.ac.uk

Tel: 01782 734889

Fax: 01782 734719

Dear Editor,

RE: Losina E. Why past research successes do not translate to clinical reality: gaps in evidence on exercise program efficiency. Osteoarthritis and Cartilage 2019;27:1-2.

We welcome the editorial by Losina which highlights many key challenges in implementing best evidence into practice. We agree that exercise is both under prescribed and underutilised for people with osteoarthritis (OA) (Holden et al., 2012, Brand et al., 2014, Cottrell et al., 2017, Healey et al., 2018) and would like to add to this discussion around the evidence-to-practice gap.

Mobilisation of research-based knowledge to transform clinical practice is a complex, multi-faceted process which necessarily involves multiple stakeholders (including patients, clinicians, commissioners and researchers). This process starts with intervention development and goes beyond traditional academic dissemination (which often primarily only reaches the academic community) to focussed strategies that reach (time-pressed) clinical audiences.

Research and implementation are often viewed as separate entities. Traditional approaches to the sharing and use of evidence-based knowledge are typically one-way and researcher-driven whereby academia produces research evidence that is 'pushed' or translated to end users (patients and clinicians), and its application into practice is assumed (Nutley et al., 2008). We suggest a move away from traditional dissemination and a focus towards more integrated, practice-centred approaches that are informed by key stakeholders throughout the research to implementation journey. Examples include the ongoing development of partnerships between research producers, participants and users (Lomas, 2000); co-production of research including implementation plans; and, the use of a boundary-spanning approach whereby individuals that sit across more than one organisation (such as clinical-academics) can share knowledge, skills, and ideas across networks.

Potential barriers to successful implementation exist at many stages of the knowledge mobilisation process. These include inadequate intervention reporting as discussed by Losina. We make the case that actions are required from intervention development through to real-world clinical practice to optimise

successful implementation of exercise programmes. We propose several considerations to enhance the implementation process.

Knowledge mobilisation theory

Utilising knowledge mobilisation theory to underpin research and implementation activities can increase the likelihood that interventions are adopted by clinicians and patients and is central to understanding and explaining the reasons for implementation success or failure. It can also focus attention on what action may be required to address the implementation-related issues pertinent to stakeholders. A challenge for both researchers and clinicians is selecting one (or more) of the many published theoretical approaches. Nilsen (2015) proposes a taxonomy for the array of theories, models and frameworks that exist to facilitate the planning, understanding and evaluation of implementation. This can be used to guide the selection of the most appropriate theory to support knowledge mobilisation for implementation in a given context.

Dedicated resources to support change

Current service development and commissioning structures often mean that individuals and organisations are not equipped with the expertise, resource or time to critically appraise the volume of primary research being published and translate that into the real world. Actively integrating evidence into practice may be optimised by allocation of sufficient dedicated resources for knowledge mobilisation such as establishing a Community of Practice network or developing boundary spanning roles. The inclusion of knowledge mobilisation plans in research grants and pump priming for future implementation in research funding may also help to mitigate this problem.

Lay involvement

We believe that the role of patient and public involvement and engagement (PPIE) in knowledge mobilisation is important from the early stages of priority setting, right through to the delivery of care and is often underutilised. Researchers can draw upon the lived experience and unique 'expertise' of people with OA to help facilitate the 'pull' of research to implement new services. Consulting people with OA and utilising their expertise at the beginning of the

process may help to ensure the successful knowledge mobilisation of clinical interventions that are relevant and usable. In many countries PPIE in research is mature and now these roles can be evolved for implementation activity. An example of successful lay involvement in shaping and informing knowledge mobilisation is the JIGSAW-E implementation project (https://www.eithealth.eu/jigsaw-e).

Sharing of best practice

Existing OARSI resources such as the Hey OA Podcast (HeyOA006 https://www.oarsi.org/education/hey-oa-podcast) and the recently formed OARSI OA Management Programs Joint Effort Initiative Discussion Group, initiated by Hunter and colleagues for addressing the uptake of best care for OA, may be useful ways to help to develop the knowledge mobilisation discipline further and share implementation strategies within our OA community.

Author contributions

JQ contributed to the conception of the manuscript. All authors have contributed to the design, drafting and final approval of this manuscript.

Acknowledgements

Other contributors – None

Acknowledgement of funding sources

LS is funded by KD's NIHR Fellowship, the Collaborations for Leadership in Applied Health Research and Care West Midlands and EIT Health. JQ is funded by a NIHR Clinical Research Network West Midlands Research Scholars Fellowship. EC is a NIHR Academic Clinical Lecturer in Primary Care. KD is part funded by the NIHR Collaborations for Leadership in Applied Research and Care West Midlands and by a Knowledge Mobilisation Research Fellowship (KMRF-2014-03-002) from the NIHR. The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care. European Institute for Innovation and Technology Health.

Statement of role of funding source in publication

None of the study funders had any role in the study design, writing or content of this opinion piece and had no role in the decision to submit the manuscript for publication.

Conflict of Interest - None

References

BRAND, C. A., HARRISON, C., TROPEA, J., HINMAN, R. S., BRITT, H., & BENNELL, K. 2014. Management of osteoarthritis in general practice in Australia. Arthritis care & research, 66(4), 551-558.

HEALEY EL, AFOLABI EK, LEWIS M, EDWARDS JJ, JORDAN KP, FINNEY A, JINKS C, HAY EM, DZIEDZIC KS. 2018. Uptake of the NICE osteoarthritis guidelines in primary care: a survey of older adults with joint pain. *BMC Musculoskeletal Disorders*; 19:295. doi: 10.1186/s12891-018-2196-2.BRAND, C. A., HARRISON, C., TROPEA, J., HINMAN, R. S., BRITT, H. & BENNELL, K. 2014. Management of osteoarthritis in general practice in Australia. *Arthritis care & research,* 66**,** 551-558.

127 COTTRELL, E., FOSTER, N. E., PORCHERET, M., RATHOD, T. & RODDY, E. 2017.
128 GPs' attitudes, beliefs and behaviours regarding exercise for chronic knee
129 pain: a questionnaire survey. *BMJ open,* 7**,** e014999.

130 HEALEY, E. L., AFOLABI, E. K., LEWIS, M., EDWARDS, J. J., JORDAN, K. P.,
131 FINNEY, A., JINKS, C., HAY, E. M. & DZIEDZIC, K. S. 2018. Uptake of the
132 NICE osteoarthritis guidelines in primary care: a survey of older adults
133 with joint pain. *BMC musculoskeletal disorders,* 19**,** 295.

134 HOLDEN, M. A., NICHOLLS, E. E., YOUNG, J., HAY, E. M. & FOSTER, N. E. 2012.
135 Role of exercise for knee pain: what do older adults in the community
136 think? *Arthritis care & research,* 64**,** 1554-64.

137 LOMAS, J. 2000. Using'linkage and exchange'to move research into policy at a
138 Canadian foundation. *Health affairs,* 19**,** 236.

139 NILSEN, P. 2015. Making sense of implementation theories, models and
140 frameworks. *Implementation Science,* 10**,** 1.

141 NUTLEY, S. M., WALTER, I. & DAVIES, H. 2008. Using evidence: how research
142 can inform public services. *Public Administration,* 86**,** 617-18.